



9110-04-P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 143 and 46 CFR Parts 110 and 111

[Docket No. USCG-2012-0850]

RIN 1625-AC00

Electrical Equipment in Hazardous Locations

AGENCY: Coast Guard, DHS.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Coast Guard proposes to amend its regulations. This proposed subpart would be applicable to foreign Mobile Offshore Drilling Units (MODUs), floating facilities, and vessels that engage in OCS activities for the first time after the effective date of the regulations. The proposed subpart would also be applicable to newly constructed U.S. MODUs, floating facilities, and vessels, excluding offshore supply vessels (OSVs). The proposed regulations would expand the list of national and international explosion protection standards deemed acceptable, as well as add the internationally accepted independent third-party certification system, the IEC System for Certification to Standards relating to Equipment

for use in Explosive Atmospheres, as an accepted method of testing and certifying electrical equipment intended for use in hazardous locations. The proposed regulations would also provide owners and operators of existing U.S. MODUs, floating OCS facilities, and vessels, other than OSVs, that engage in OCS activities and U.S. tank vessels that carry flammable or combustible cargoes the option of choosing between the compliance regime contained in existing regulations. This proposal would support the U.S. Coast Guard's maritime safety mission.

DATES: Comments and related material must either be submitted to our online docket via <http://www.regulations.gov> on or before **[INSERT DATE 90 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]** or reach the Docket Management Facility by that date.

ADDRESSES: You may submit comments identified by docket number USCG-2012-0850 using any one of the following methods:

- (1) Federal eRulemaking Portal:

<http://www.regulations.gov>.

- (2) Fax: 202-493-2251.

- (3) Mail: Docket Management Facility (M-30), U.S. Department of Transportation, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC

20590-0001.

(4) Hand delivery: Same as mail address above, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The telephone number is 202-366-9329.

To avoid duplication, please use only one of these four methods. See the "Public Participation and Request for Comments" portion of the SUPPLEMENTARY INFORMATION section below for instructions on submitting comments.

Viewing incorporation by reference material: You may inspect the material proposed for incorporation by reference at room 1304 U.S. Coast Guard Headquarters, 2100 Second Street SW., Washington, DC 20593-0001 between 9 a.m. and 2 p.m., Monday through Friday, except Federal holidays. The telephone number is 202-372-1381. Copies of the material are available as indicated in the "Incorporation by Reference" section of this preamble.

FOR FURTHER INFORMATION CONTACT: If you have questions on this proposed rule, call or e-mail Mr. Raymond Martin, Systems Engineering Division (CG-ENG-3), Coast Guard; telephone 202-372-1384, e-mail Raymond.W.Martin@uscg.mil. If you have questions on viewing or submitting material to the docket, call Renee V. Wright, Program Manager, Docket Operations, telephone 202-366-9826.

SUPPLEMENTARY INFORMATION:

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I. Public Participation and Request for Comments

We encourage you to participate in this rulemaking by submitting comments and related materials. All comments received will be posted without change to <http://www.regulations.gov> and will include any personal information you have provided.

A. Submitting comments

If you submit a comment, please include the docket number for this rulemaking (USCG-2012-0850), indicate the specific section of this document to which each comment applies, and provide a reason for each suggestion or

recommendation. You may submit your comments and material online or by fax, mail, or hand delivery, but please use only one of these means. We recommend that you include your name and a mailing address, an e-mail address, or a phone number in the body of your document so that we can contact you if we have questions regarding your submission.

To submit your comment online, go to <http://www.regulations.gov> and insert "USCG-2012-0850" in the "Search" box. Click on "Submit a Comment" in the "Actions" column. If you submit your comments by mail or hand delivery, submit them in an unbound format, no larger than 8½ by 11 inches, suitable for copying and electronic filing. If you submit comments by mail and would like to know that they reached the Facility, please enclose a stamped, self-addressed postcard or envelope.

We will consider all comments and material received during the comment period and may change this proposed rule based on your comments.

B. Viewing comments and documents

To view comments, as well as documents mentioned in this preamble as being available in the docket, go to <http://www.regulations.gov> and insert "USCG-2012-0850" in the "Search" box. Click "Search." Click the "Open Docket Folder" in the "Actions" column. If you do not have access

to the Internet, you may view the docket online by visiting the Docket Management Facility in Room W12-140 on the ground floor of the Department of Transportation West Building, 1200 New Jersey Avenue S.E., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. We have an agreement with the Department of Transportation to use the Docket Management Facility.

C. Privacy Act

Anyone can search the electronic form of comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review a Privacy Act notice regarding our public dockets in the January 17, 2008, issue of the Federal Register (73 FR 3316).

D. Public meeting

We do not now plan to hold a public meeting. You may submit a request for one to the docket using one of the methods specified under ADDRESSES. In your request, explain why you believe a public meeting would be beneficial. If we determine that one would aid this rulemaking, we will hold one at a time and place announced by a later notice in the Federal Register.

II. Abbreviations

ABS	American Bureau of Shipping
ANSI	American National Standards Institute
API	American Petroleum Institute
ASTM	ASTM International
CFR	Code of Federal Regulations
CSA	Canadian Standards Association
DHS	Department of Homeland Security
Ex	Designation of explosion-protected electrical apparatus complying with IEC standards
ExCB	Ex Certification Body
ExTL	Ex Testing Laboratory
ExTR	Ex Test Report
FAM	Final action memo
FR	<u>Federal Register</u>
IEC	International Electrotechnical Commission
IECEx System	IEC System for Certification to Standards relating to Equipment for use in Explosive Atmospheres
IEEE Engineers	Institute of Electrical and Electronics Engineers
IMO	International Maritime Organization
ISA	International Society of Automation
ISO Standardization	International Organization for Standardization
MISLE Enforcement	Marine Information for Safety and Law Enforcement
MSC	Marine Safety Center
MODU	Mobile Offshore Drilling Unit
NARA	National Archives and Records Administration
NAVSEA	Naval Sea Systems Command
NEC	National Electrical Code
NEMA Association	National Electrical Manufacturers Association
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NPFC	Naval Publications and Forms Center
NPRM	Notice of Proposed Rulemaking
NRTL	Nationally Recognized Testing Laboratory
OCS	Outer Continental Shelf
OMB	Office of Management and Budget
OSV	Offshore Supply Vessel
QAR	Quality Assessment Report
RP	Recommended Practice
SANS	Ship Arrival Notification System

SOLAS	International Convention for Safety of Life at Sea, 1974
U.S.	United States
U.S.C.	United States Code

III. Background

On September 9, 2011, the Coast Guard published the final action memo (FAM) by the Commandant on the recommendations of its investigation into the explosion, fire, and sinking of the Mobile Offshore Drilling Unit (MODU) DEEPWATER HORIZON and the resulting loss of 11 of its crew members. One key finding of the Coast Guard's investigation of the DEEPWATER HORIZON emphasized the importance of proper electrical equipment installations in hazardous locations during oil drilling exploration on U.S. and foreign MODUs. The ignition or explosion hazards posed by electrical equipment installations during Outer Continental Shelf (OCS) activities involving storage, production and processing of hydrocarbons were also considered in the report. You may view a copy of the FAM and the investigation online by going to the Coast Guard's website at <http://uscg.mil/hq/cg5/cg545> and clicking on the Deepwater Horizon-exhibits-transcripts-video link. The Coast Guard, therefore, reviewed the existing regulations for hazardous locations, specifically the requirements for

electrical equipment testing and certification as well as the referenced standards applicable to U.S. and foreign MODUs, floating OCS facilities, and vessels that engage in OCS activities.

Currently, electrical equipment on U.S. vessels and floating facilities that operate in the OCS must comply with 46 CFR subpart 111.105. This subpart adopts international and national standards and requires the equipment to be tested and certified by a Coast Guard accepted independent third-party laboratory.

In contrast, foreign vessels and floating facilities that engage in OCS activities must meet the requirements of 33 CFR subchapter N. While foreign floating OCS facilities must meet the same engineering standards as U.S. floating OCS facilities, foreign vessels generally meet the standards of their flag administration. Their compliance with international standards, such as the IMO MODU Code, is subject to the interpretation of the applicable flag administration. With respect to explosion protection standards, this can result in the installation of equipment on vessels that has not been tested by an independent third-party laboratory. The Coast Guard believes that U.S. and foreign vessels and floating facilities that engage in OCS activities for the first time, after the effective date

of the regulations, should have equivalent standards. The Coast Guard, therefore, proposes to require third-party testing and certification of electrical equipment in hazardous locations in order to achieve an equivalency of standards between U.S. and foreign vessels and floating facilities.

The Coast Guard identified an international certification system that requires full testing to the IEC 60079 series of explosion protection standards. The IECEX System pertains to "Certification to Standards Relating to Equipment for Use in Explosive Atmospheres" which requires full testing to the applicable IEC 60079 standard by an explosive atmospheres (Ex) Testing Laboratory (ExTL) and issuance of certification (Certificate of Conformity) by an Ex Certification Body (ExCB). The ExTL and ExCB are accepted under the IECEX system after meeting the competency requirements established by the International Organization for Standardization (ISO)/IEC Standard 17025 and related IECEX Operational Documents and Rules of Procedure. Some foreign flag administrations do not impose the IEC 60079 series of standards, and instead accept an "EC Type Examination Certificate" issued under the European Commission Directive (94/9/EC) on Equipment and Protective Systems Intended for use in Potentially Explosive

Atmospheres (ATEX Directive) for EU member nations. In contrast to IECEx, certification under the ATEX Directive show compliance with the Essential Health and Safety Requirements of the ATEX directive for which full or partial compliance with an IEC harmonized standard, may be used, but it does not specifically require full testing and certification by an independent third party laboratory. Accordingly, to adequately address the DEEPWATER HORIZON report's recommendations identified above, the Coast Guard proposes to amend the hazardous locations regulations to include the IECEx System. Additionally, the Coast Guard proposes to expand the list of national and international explosion protection standards deemed acceptable.

IV. Discussion of Proposed Rule

The Coast Guard proposes to add a new subpart, 46 CFR subpart 111.108, that would require foreign MODUs, floating OCS facilities, and vessels that engage in OCS activities for the first time after the effective date of the regulations, to have a level of safety equivalent to the certification regime required under subpart 111.105. Currently, these vessels and floating OCS facilities must comply with 33 CFR subchapter N. We propose to amend 33 CFR 143.120, add 143.208, and add 143.302 to require newly built foreign vessels and floating OCS facilities and

existing foreign vessels and floating facilities that have never operated on the OCS to meet the proposed subpart 46 CFR 111.108.

Foreign vessels and floating facilities operating on the OCS at the time of the effective date of the final rule will not be required to meet the requirements of this proposed rule because they are already subject to the existing applicable international standards and have been inspected by the Coast Guard in accordance with 33 CFR subchapter N. Through its existing inspection authorities, the Coast Guard is examining electrical installations in hazardous locations on these vessels and floating OCS facilities to ensure they meet the appropriate standards. While this existing compliance scheme is workable, it is less than ideal as it leads to a patchwork of different standards across the OCS, which makes inspection by port state control officers and compliance by owners and operators more difficult because it requires familiarity with multiple standards and certification schemes. The Coast Guard has determined that the benefit of a consistently applied standard is preferable and its requirements can be followed at little to no cost (see discussion of costs below).

This proposed subpart would also apply to newly constructed U.S. MODUs, floating facilities, and vessels, excluding offshore supply vessels (OSVs)¹. Additionally, this proposed rule would provide owners and operators of existing U.S. MODUs, floating OCS facilities, and vessels, other than OSVs, that engage in OCS activities and U.S. tank vessels that carry flammable or combustible cargoes the option of choosing between the compliance regime contained in existing subpart 111.105 or the one in proposed subpart 111.108. Note, this proposed rule would not affect any existing domestic-flagged vessels or facilities that have not already operated on the OCS as they comply with subpart 111.105.

This proposed rule would allow the use of the latest editions of the North American Nationally Recognized Testing Laboratory (NRTL) standards, the American National Standards Institute/International Society of Automation (ANSI/ISA) 60079 series of standards referenced in Article 505 of the National Electrical Code (NEC), and the international consensus standards, International Electrotechnical Commission (IEC) 60079 Series. Further,

¹These proposed regulations would not apply to U.S. OSVs although those vessels may be the subject of a separate, future rulemaking. Currently, U.S. OSVs must meet the hazardous location requirements of 46 CFR subchapter L.

the proposed regulations would permit the use of an internationally accepted certification system, the IECEx System.

The term "hazardous location" is broadly understood as a location where concentrations of flammable gases, vapors, or dusts (commonly referred to as explosive atmospheres) occur or may be present. Electrical equipment in these locations are specifically designed, tested, certified, or listed, and installed to ensure that explosions due to equipment arcing or high surface temperature do not occur. Hazardous locations may be classified by Class/Division or by Zone; thus the definitions of these terms would be included in the proposed revisions to § 110.15-1.

The Coast Guard proposes to add provisions specific to U.S. and foreign MODUs, floating OCS facilities, vessels (excluding U.S. OSVs) engaged in OCS activities, and U.S. tank vessels that carry flammable and combustible cargoes. These provisions would prescribe the use of the latest editions of widely accepted NRTL or international consensus standards.

With respect to U.S. industry standards, these proposed regulations would allow U.S. and foreign MODUs, floating OCS facilities, vessels (excluding U.S. OSVs) engaged in OCS activities, and existing U.S. MODUs,

floating OCS facilities, and vessels, other than OSVs, that engage in OCS activities and U.S. tank vessels carrying flammable and combustible cargoes to comply with either of two hazardous locations classification systems found in the NEC, also known as National Fire Protection Association 70 (NFPA 70). Both of these systems classify hazardous locations according to the likely presence of explosive atmospheres. Hazardous locations may comply with Articles 500 through 504 of NFPA 70, expressed in Class and Divisions, or may comply with Article 505 of NFPA 70, expressed in Class and Zones. Articles 501 and 505 provide guidance in combining listed or certified equipment for use in Division or Zone hazardous locations. In order to delineate areas within a Class I, Division 1 location where explosive atmospheres are always present (i.e., equivalent to Zone 0 in Article 505 of NFPA 70), the Coast Guard decided to use the term "Class I, Special Division 1." This term is based on the American Petroleum Institute Recommended Practice (API RP) 500. Regardless of which Article of NFPA 70 is followed, the proposed regulations in § 111.108-3(b)(1) and (b)(2) would require the equipment to be tested and listed or certified by a Coast Guard-accepted independent laboratory. A list of Coast Guard-accepted

independent laboratories can be found at
<http://cgmix.uscg.mil/>.

As an alternative to the North American NRTL standards, the proposed regulations for hazardous locations would allow U.S. and foreign MODUs, floating OCS facilities and vessels engaged in OCS activities, existing U.S. MODUs, floating OCS facilities, and vessels, other than OSVs, that engage in OCS activities, and U.S. tank vessels carrying flammable and combustible cargoes to comply with the widely accepted international standards IEC 61892-7 or IEC 60092-502. Consistent with the North American NRTL standards, the proposed regulations in § 111.108-3(b)(3) would require electrical equipment to be tested and approved or certified by a Coast Guard-accepted independent laboratory in order to meet the provisions of Clause 6 of IEC 61892-7 or Clause 6 of IEC 60092-502, as applicable.

The Coast Guard believes it is a vitally important and appropriate safety measure for the testing laboratory and certification body to follow published procedures established under an international certification scheme and conformity assessment system when performing the various testing and certification of electrical equipment for use in hazardous locations. Under the existing international regulatory standards governing foreign vessels and floating

facilities engaged in OCS activities, however, equipment could be installed in hazardous locations that meets the IEC 60079 explosion protection standards but has not been tested and certified by an independent body. For this reason, the Coast Guard, through this NPRM, proposes to adopt the international certification system, the IECEX System, which implements the IEC 60079 series of standards. Additionally, the proposed regulations would add a new paragraph (q) in § 110.25-1, "Plans and information required for new construction," which would specify submittal of IECEX certification.

The IECEX System is an internationally accepted certification system, widely used throughout the industry, that ensures electrical equipment is manufactured, tested, marked, installed, and certified for full compliance with the applicable IEC 60079 standards by a competent authority. Approval under the IECEX System involves an Ex Certification Body (ExCB) and an Ex Testing Laboratory (ExTL) that have been accepted into the IECEX System after meeting competence requirements found in the International Organization for Standardization ISO/IEC Standard 17025 and related IECEX procedures. The ExTL tests the subject equipment and drafts an Ex Test Report (ExTR) to document the test results. The ExCB reviews the manufacturing

quality assurance process and issues an IECEx Quality Assessment Report (QAR). Based on the QAR and ExTR, the ExCB issues an IECEx Certification of Conformity for the equipment.

For protections not covered by the standards discussed above, this proposed rule would incorporate existing requirements for other large vessels. For example, proposed § 111.108-3 contains submerged pump motor requirements based on existing Subpart 111.105 and tank barge regulations. It also incorporates ASTM International (ASTM) F2876-10, "Standard Practice for Thermal Rating and Installation of Internal Combustion Engine Packages for Use in Hazardous Locations in Marine Applications," to address the growing use of engines with electronic controls that could cause arcing or sparking in hazardous locations.

V. Incorporation by Reference

Material proposed for incorporation by reference appears in 46 CFR 110.10. You may inspect this material at U.S. Coast Guard Headquarters where indicated under ADDRESSES. Copies of the material are available from the sources listed in § 110.10-1.

Before publishing a binding rule, we will submit this material to the Director of the Federal Register for approval of the incorporation by reference.

VI. Regulatory Analyses

We developed this proposed rule after considering numerous statutes and executive orders related to rulemaking. Below we summarize our analyses based on these statutes or executive orders.

A. Regulatory Planning and Review

Executive Orders 12866 ("Regulatory Planning and Review") and 13563 ("Improving Regulation and Regulatory Review") direct agencies to assess the costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits (including potential economic, environmental, public health and safety effects, distributive impacts, and equity). Executive Order 13563 emphasizes the importance of quantifying both costs and benefits, of reducing costs, of harmonizing rules, and of promoting flexibility. Two additional executive orders were recently published to promote the goals of Executive Order 13563: Executive Orders 13609 ("Promoting International Regulatory Cooperation") and 13610 ("Identifying and Reducing Regulatory Burdens"). Executive Order 13609 targets international regulatory cooperation to reduce, eliminate, or prevent unnecessary differences in regulatory requirements. Executive Order 13610 aims to modernize the

regulatory systems and to reduce unjustified regulatory burdens and costs on the public.

This proposed rule is not a significant regulatory action under section 3(f) of Executive Order 12866, Regulatory Planning and Review, as supplemented by Executive Order 13563, Improving Regulation and Regulatory Review, and does not require an assessment of potential costs and benefits under section 6(a)(3) of that Order. The Office of Management and Budget (OMB) has not reviewed it under that Order. Nonetheless, we developed an analysis of the costs and benefits of the proposed rule to ascertain its probable impacts on industry. We consider all estimates and analysis in this Regulatory Analysis to be draft and subject to change in consideration of public comments.

A summary of the draft Regulatory Assessment follows:

Costs

A breakdown of the population, the effect of the proposed rule on said population, and the number of vessels included in each vessel class follows in Table 1.

Table 1: Affected Populations: U.S. and Foreign

	Effect due to proposed regulation	Number of Vessels & Facilitie s
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U.S. Vessels, excluding OSVs²		
New to OCS	Currently 111.105, regulation provides option to pursue 111.108	56
Existing with prior OCS activities	Currently 111.105, regulation provides option to pursue 111.108	243
U.S. MODUs & floating OCS facilities³		
New Builds	Must comply with 111.108	24
New to OCS	Currently 111.105, regulation provides option to pursue 111.108	0
Existing with prior OCS activities	Currently 111.105, regulation provides option to pursue 111.108	30
U.S. Tank Vessels⁴		
New Builds	Currently 111.105, regulation provides option to pursue 111.108	172 ⁵
Existing	Currently 111.105, regulation provides option to pursue 111.108	6,080 ⁶
Foreign Vessels⁷		
New to OCS	Must comply with 111.108	0
Existing with prior OCS activities	No Change	2
Foreign MODUs & floating OCS facilities⁸		
New to OCS	Must comply with 111.108	16
Existing with prior OCS activities	No Change	80

² Population data obtained via queries of the MISLE (Marine Information for Safety and Law Enforcement) database, maintained by the U.S. Coast Guard

³ Population data obtained via queries of the MISLE and SANS (Ship Arrival Notification System) databases, both maintained by the U.S. Coast Guard

⁴ Population data obtained via queries of the MISLE database, maintained by the U.S. Coast Guard

⁵ 3.5 Tank Ships + 168.6 Tank Barges = 172 newly built per year (estimated over a ten year period)

⁶ 225 Tank Ships + 5,855 Tank Barges = 6,080

⁷ Population data obtained via queries of the MISLE and SANS databases, both maintained by the U.S. Coast Guard

⁸ Population data obtained via queries of the MISLE and SANS databases, both maintained by the U.S. Coast Guard

U.S. Vessels

We do not anticipate any costs to be borne by the U.S.-flagged vessels that would be affected by this proposed rule. The proposed rule would require that all U.S. vessels, excluding OSVs, comply with the newly created subpart 111.108. Our analysis is simplified due to the population demographics, which are filtered to include only those vessels which would (a) be on the OCS in pursuit of OCS activities as defined by this proposed rule, and (b) contain a hazardous area. Evaluation of vessel population data maintained by the Coast Guard and contained in the Marine Information for Safety and Law Enforcement (MISLE) database allows us to determine a potential 297 vessels that would fall under the umbrella of this proposed rule. All of these vessels are of the oil recovery type.

Proposed subpart 111.108 would not impose any burden on U.S. vessels due to the nature of the standards being incorporated. For example, existing subpart 111.105 refers to Articles 500-505 of the NEC (2002) while proposed subpart 111.108 would refer to NEC (2011) Articles 500-505. Because North American certification of electrical equipment is generally to the most current edition of the

published reference standards,⁹ we do not anticipate new equipment will be tested and certified to the standards referenced in subpart 111.105 when more current, updated editions of the standards are available. The Coast Guard strives to incorporate updated standards after publication by the standards development organizations. During the time between the publication date of the updated standard and the date it is incorporated into Coast Guard regulations, certifying laboratories evaluate new equipment using the updated standard. Because all of the vessels affected by this proposed rule would be newly built and the equipment will be certified before being installed on these vessels, all vessels affected by this proposed rule would be required to be in compliance with the updated standards proposed in subpart 111.108.

The logic applied to U.S. vessels, excluding OSVs, applies to U.S. MODUs and floating OCS facilities as well. We do not anticipate any cost burden associated with this proposed rule to be imposed on this vessel class. We believe this because the affected population is entirely found under the 'new build' designation. As discussed earlier, these new builds would be required to comply with proposed subpart 111.108, a subpart that contains the

⁹ Confirmed by Principal Engineer – Global Hazardous Locations Product Safety, UL LLC., 12/26/2012

updated standards to which new equipment would be certified. As with the vessels discussed earlier, in the absence of proposed subpart 111.108, new equipment would be built to the most current standards as a matter of industry practice. Over the 10-year period during which the population data for this vessel class was compiled, 24 new MODUs were built and a single U.S. MODU entered the OCS from a foreign location. Under the proposed rule, this scenario would not require any costs to the vessel owner as there is no change in the regulatory environment for these existing vessels.

The proposed rule contains language pertinent to existing U.S. MODUs, floating OCS facilities, and vessels, other than OSVs, that engage in OCS activities, and U.S. tank vessels, but we do not foresee any associated costs to the owners of these vessels and facilities. Currently, the regulations for electrical installations in hazardous locations are contained in subpart 111.105. The proposed regulation will expand the available subparts to include proposed subpart 111.108, while still allowing owners and operators, the option to remain subject to existing subpart 111.105.

Foreign Vessels

Currently, foreign vessels are required to comply with the regulations governing electrical installations in hazardous locations of the nation under whose flag they operate. This proposed rule would require foreign vessels new to the OCS to comply with proposed subpart 111.108. Our analysis is simplified due to the population that the proposed regulation is expected to affect. Based on historical information found in the Ship Arrival Notification System (SANS)¹⁰ database, we are able to ascertain the number of foreign vessels that have engaged in OCS activities. After filtering this population data for vessels with prior visits to the OCS, we anticipate the affected foreign vessel population that is new to the OCS to be zero. Additionally, there were no new arrivals on the OCS by foreign vessels built within the ten year period, 2002-2011, that would be affected by the proposed rule. It is for these reasons that there is no anticipated cost burden on vessels within this class. Foreign MODUs, however, require special consideration, which is provided in the following section.

Currently, foreign MODUs & floating facilities that engage in OCS activities are subject to the regulatory schemes accepted by the nation under whose flag they

¹⁰ This database is maintained by the Coast Guard and contains a record of vessel arrival and departure data.

operate. Equipment certified and accepted by a flag administration may or may not include evaluation by an accepted third-party laboratory. The Coast Guard seeks to address this potential safety gap by requiring that electrical installations on foreign MODUs & floating facilities conform to the required third-party certification processes accepted under proposed subpart 111.108. Those foreign MODUs & floating facilities that have engaged in documented OCS activities prior to implementation of the proposed rule would be exempt from proposed subpart 111.108, which would allow them to continue to operate without changes. The foreign MODUs & floating facilities that will be affected by this proposed rule are those vessels that are new to the OCS. Over a 10-year period between 2002 and 2011, 16 foreign-flagged MODUs & floating facilities that would be affected by this proposed rule have entered the OCS. This equates to an average yearly rate of 1.6¹¹ vessels seeking entrance into U.S. waters in pursuit of engaging in OCS activities. We assume that this rate will stay constant into the future.

Vessels that seek to engage in OCS activities for the first time that are not in compliance with the proposed rules have two options. The vessel owners can either

¹¹ 16 vessels & facilities / 10 years = 1.6 vessels & facilities per year on average

replace the electrical equipment with equipment certified under a permissible scheme or seek recertification from a Coast Guard-approved third-party laboratory. As a conservative estimate, we constructed calculations for full replacement or recertification of all electrical equipment in hazardous areas present on the vessel, as the potential for partial replacement or recertification of non-conforming equipment will be determined on a vessel specific basis.

We constructed cost estimates for both of these options after discussion with experts. We estimate that it would cost a vessel owner \$500,000¹² per vessel for full replacement of electrical equipment in hazardous areas. The second option, recertification of the equipment covered by this proposed rule, may be lower in cost. Additionally, it may be the preferred option for some vessel owners looking to comply with the regulation proposed in this NPRM. For the purposes of our analysis, pertaining to the recertification option, significant information gaps exist regarding its implementation. A discussion of the shortcomings of said data follows.

Recertification of equipment would begin with evaluation of existing laboratory documentation, if

¹² Estimate provided by Regulatory Advisor – MWCS, Exxon Mobil, 8/14/2012

available, to ascertain the gap between what is acceptable to an ATEX certifying laboratory and what is acceptable to an IECEx certifying laboratory, for example. After the initial evaluation is completed, the next step would be a decision regarding acceptance, recertification, or replacement of the equipment. The cost estimate provided includes in-office labor for the initial evaluation, travel and labor time to complete a physical inspection, and final evaluation and document preparation by the certifying laboratory.

The cost for recertification on a MODU is estimated to begin at \$35,000¹³. The estimated cost range for a given vessel to comply with the proposed regulation is between \$35,000 to \$500,000, depending on the composition and the extent of equipment replacement. The myriad types of MODUs and facilities operating on the OCS may contain a diverse range of equipment, with some equipment requiring replacement in order to comply with the proposed rulemaking, while other equipment may be able to be recertified after evaluation by a certified laboratory. A vessel found to have all equipment in compliance with the proposed regulation could conceivably proceed with recertification, for an estimated \$35,000. However,

¹³ Estimate provided, via email, by Field Evaluation Program Manager, UL LLC, 9/6/2012

because vessel specific information is unavailable, we estimate the cost of the proposed rulemaking conservatively at \$500,000 per vessel, which reflects the cost associated with full replacement of electrical equipment on a vessel. At an entry rate of 1.6 per year and a cost of \$500,000 per vessel & facility, the yearly cost for compliance for the industry is projected to be \$800,000, as presented in Table 2.

Table 2: Annual Costs on Foreign Vessels & Facilities

Year	Undiscounted Cost	Discounted @ 3%	Discounted @7%
1	\$800,000	\$776,699	\$747,664
2	\$800,000	\$754,077	\$698,751
3	\$800,000	\$732,113	\$653,038
4	\$800,000	\$710,790	\$610,316
5	\$800,000	\$690,087	\$570,389
6	\$800,000	\$669,987	\$533,074
7	\$800,000	\$650,473	\$498,200
8	\$800,000	\$631,527	\$465,607
9	\$800,000	\$613,133	\$435,147
10	\$800,000	\$595,275	\$406,679
Total	\$8,000,000	\$6,824,162	\$5,618,865
Annualized	\$800,000	\$800,000	\$800,000

Benefits

The Coast Guard is unable to monetize benefits. We can find no casualties that would have been prevented with recertification. However, the importance of third-party testing and certification for critical equipment, such as electrical equipment intended for use in hazardous

locations, addresses a potentially catastrophic hazard consisting of an explosive gas/vapor combined with an electrical ignition source, and is generally understood by industry as an appropriate measure that enhances safety and protects life, the environment, and property.

Alternatives

We considered four alternatives when evaluating the effects of this proposed rule. The first, abstaining from action, was deemed to leave a significant hazard not addressed. Further, it allows a regulatory imbalance to exist because foreign vessels and facilities operating on the OCS would not be required to meet the same standards for explosion protection and independent third-party certification as those of U.S. vessels and facilities operating in the same service.

The second alternative we considered was to require both U.S. and foreign-flagged vessels and facilities to adhere to the existing international standards. This alternative was deemed insufficient because compliance with international standards, such as the IMO Code, is subject to the interpretation of the applicable flag administration. An example of an undesired consequence of this alternative would be the acceptance of ATEX certified

equipment. The Coast Guard, however, will not accept ATEX certifications because evidence of full testing to the applicable harmonized 60079 series of standards by an independent third-party laboratory is not guaranteed. Consistent with preexisting Coast Guard practices, third-party testing and certification for critical equipment is generally required.

The third alternative we considered was to require foreign vessels and floating facilities to meet current U.S. standards. This alternative was not selected because we believe that requiring compliance with U.S. standards is unnecessary when there are specific, comparable international standards acceptable to the Coast Guard. Because these latest editions of internationally recognized standards for explosion protection and independent third-party certification offer owners and operators greater flexibility while also avoiding the costs of coastal state specific requirements, the Coast Guard proposes to expand the list of international explosion protection standards deemed acceptable.

The final alternative, implementing the proposed regulation, would put in place a regulatory regime that would allow for both the U.S., as the coastal state, and industry to be confident in the certification and

assessment of electrical equipment intended for use in hazardous locations. This would be achieved through the use of the most current, internationally recognized standards for explosion protection and independent third-party certification. Lastly, the proposed regulation would expand the list of national and international explosion protection standards deemed acceptable for U.S. operators.

B. Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601-612), we have considered whether this proposed rule would have a significant economic impact on a substantial number of small entities. The term "small entities" comprises small businesses, not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations of less than 50,000.

We do not anticipate any effect on small entities. As noted in the previous discussion, there is no anticipated cost burden placed on U.S. entities by this proposed rule and, as such, we do not anticipate any effect on small entities that would be addressed by this section.

Therefore, the Coast Guard certifies under 5 U.S.C. 605(b) that this proposed rule, if promulgated, will not have a significant economic impact on a substantial number

of small entities. If you think that your business, organization, or governmental jurisdiction qualifies as a small entity and that this rule would have a significant economic impact on it, please submit a comment to the Docket Management Facility at the address under ADDRESSES. In your comment, explain why you think it qualifies and how and to what degree this rule would economically affect it.

C. Assistance for Small Entities

Small businesses may send comments on the actions of Federal employees who enforce, or otherwise determine compliance with, Federal regulations to the Small Business and Agriculture Regulatory Enforcement Ombudsman and the Regional Small Business Regulatory Fairness Boards. The Ombudsman evaluates these actions annually and rates each agency's responsiveness to small business. If you wish to comment on actions by employees of the Coast Guard, call 1-888-REG-FAIR (1-888-734-3247).

D. Collection of Information

This proposed rule does not increase the burden under a current a collection of information under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501-3520). As defined in 5 CFR 1320.3(c), "collection of information" comprises reporting, recordkeeping, monitoring, posting, labeling, and other, similar actions. The title and description of

the information collections, a description of those who must collect the information, and an estimate of the total annual burden follow. The estimate covers the time for reviewing instructions, searching existing sources of data, gathering and maintaining the data needed, and completing and reviewing the collection.

TITLE: Plan Approval and Records for Electrical Engineering Regulations - Title 46 CFR Subchapter J

OMB CONTROL NUMBER: 1625-0031

SUMMARY OF THE COLLECTION OF INFORMATION: The information sought here is needed to ensure compliance with our rules on electrical engineering for the design and construction of U.S.-flag commercial vessels.

NEED FOR INFORMATION: These regulations contain the primary standards for the review of electrical installations on all new U.S. Coast Guard certificated vessels except small passenger vessels. Recent amendments to the regulations clarify the regulations, bring them up to date, and delete unnecessary requirements. The revisions to Subchapter J reduced the reliance on domestic standards and adopted SOLAS and other international standards developed through consensus by the international maritime community. The information collection requirements described in this supporting statement are

necessary to implement the regulations in 46 CFR Parts 110 through 113.

The Coast Guard requires industry complete electrical engineering plans to meet performance requirements on new-built vessels. These requirements help resolve much of the confusion during inspections that has risen due to the varying special missions of modern merchant vessels.

The collection of information is needed to demonstrate that certain specific regulations implement the international requirements. The requirements generally reflect routine practices for U.S. merchant companies.

PROPOSED USE OF INFORMATION: The purpose of the information collection is to ensure compliance with electrical safety regulations. Through the review of the plans prior to construction, the vessel owner or builder may be assured that the vessel, if built in accordance with the plans, will meet regulatory standards.

DESCRIPTION OF THE RESPONDENTS: Owners, operators, and builders of vessels.

NUMBER OF RESPONDENTS: 186

FREQUENCY OF RESPONSE: On occasion.

BURDEN OF RESPONSE: Hour Burden: 4,754 hours. Cost burden: \$399,336

ESTIMATE OF TOTAL ANNUAL BURDEN: The estimated annual

hour burden is 4,754 hours. The estimated annual cost burden is \$399,336.

As required by the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), we will submit a copy of this proposed rule to the Office of Management and Budget (OMB) for its review of the collection of information.

We ask for public comment on the proposed collection of information to help us determine how useful the information is; whether it can help us perform our functions better; whether it is readily available elsewhere; how accurate our estimate of the burden of collection is; how valid our methods for determining burden are; how we can improve the quality, usefulness, and clarity of the information; and how we can minimize the burden of collection.

If you submit comments on the collection of information, submit them both to OMB and to the Docket Management Facility where indicated under ADDRESSES, by the date under DATES.

You need not respond to a collection of information unless it displays a currently valid control number from OMB. Before the Coast Guard could enforce the collection of information requirements in this proposed rule, OMB would need to approve the Coast Guard's request to collect

this information.

E. Federalism

A rule has implications for federalism under Executive Order 13132, Federalism, if it has a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. We have analyzed this rule under that Order and have determined that it does not have implications for federalism.

It is well settled that States may not regulate in categories reserved for regulation by the Coast Guard. It is also well settled, now, that all of the categories covered in 46 U.S.C. 3306, 3703, 7101, and 8101 (design, construction, alteration, repair, maintenance, operation, equipping, personnel qualification, and manning of vessels), as well as the reporting of casualties and any other category in which Congress intended the Coast Guard to be the sole source of a vessel's obligations, are within the field foreclosed from regulation by the States. (See the decision of the Supreme Court in the consolidated cases of United States v. Locke and Intertanko v. Locke, 529 U.S. 89, 120 S.Ct. 1135 (March 6, 2000).) This rule addresses the design, construction, alteration, repair, maintenance,

operation, and equipping, of vessels and facilities engaged in OCS activities. Because the States may not regulate within these categories, preemption under Executive Order 13132 is not an issue.

F. Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531-1538) requires Federal agencies to assess the effects of their discretionary regulatory actions. In particular, the Act addresses actions that may result in the expenditure by a State, local, or tribal government, in the aggregate, or by the private sector of \$100,000,000 (adjusted for inflation) or more in any one year. Though this proposed rule would not result in such an expenditure, we do discuss the effects of this rule elsewhere in this preamble.

G. Taking of Private Property

This proposed rule would not cause a taking of private property or otherwise have taking implications under Executive Order 12630, Governmental Actions and Interference with Constitutionally Protected Property Rights.

H. Civil Justice Reform

This proposed rule meets applicable standards in sections 3(a) and 3(b)(2) of Executive Order 12988, Civil

Justice Reform, to minimize litigation, eliminate ambiguity, and reduce burden.

I. Protection of Children

We have analyzed this proposed rule under Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. This proposed rule is not an economically significant rule and would not create an environmental risk to health or risk to safety that might disproportionately affect children.

J. Indian Tribal Governments

This proposed rule does not have tribal implications under Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, because it would not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.

K. Energy Effects

We have analyzed this proposed rule under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use. We have determined that it is not a "significant energy action" under that order. This proposed rule is not a

"significant regulatory action" under Executive Order 12866, and it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. The Administrator of the Office of Information and Regulatory Affairs has not designated it as a significant energy action. Therefore, it does not require a Statement of Energy Effects under Executive Order 13211.

L. Technical Standards

The National Technology Transfer and Advancement Act (15 U.S.C. 272 note) directs agencies to use voluntary consensus standards in their regulatory activities unless the agency provides Congress, through the Office of Management and Budget, with an explanation of why using these standards would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., specifications of materials, performance, design, or operation; test methods; sampling procedures; and related management systems practices) that are developed or adopted by voluntary consensus standards bodies.

This proposed rule uses the following voluntary consensus standards:

- ANSI/ISA 12.12.01-2012, Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and

Class III, Divisions 1 and 2 Hazardous (Classified)
Locations

- ANSI/ISA 60079-18 - Electrical Apparatus for Use in Class I, Zone 1 Hazardous (Classified) Locations: Type of Protection - Encapsulation "m", 2012 ("ANSI/ISA 60079-18")
- ANSI/UL 674 - Electric Motors and Generators for Use in Division 1 Hazardous Locations (Classified) Locations, 5th Edition, ("ANSI/UL 674")
- ANSI/UL 823 - Electric Heaters for Use in Hazardous (Classified) Locations, 9th Edition ("ANSI/UL 823")
- ANSI/UL 844 - Electric Lighting Fixtures for Use in Hazardous (Classified) Locations, 13th Edition ("ANSI/UL 844")
- ANSI/UL 913 - Intrinsically Safe Apparatus and Associated Apparatus for use in Class I, II and III, Division 1, Hazardous Locations, 7th Edition ("ANSI/UL 913")
- ANSI/UL 1203 - Explosion-proof and Dust-ignition Proof Electrical Equipment for use in Hazardous (Classified) Locations, 4th Edition ("ANSI/UL 1203")

- ANSI/UL 2225 - Cables and Cable-Fittings for use in Hazardous (Classified) Locations, 3rd Edition ("ANSI/UL 2225")
- ASTM F2876-10 - Standard Practice for Thermal Rating and Installation of Internal Combustion Engine Packages for use in Hazardous Locations in Marine Applications ("ASTM F2876-10")
- CSA C22.2 No. 0-M91 - General Requirements - Canadian Electrical Code, Part II, July 1991, Reaffirmed 2006 ("CSA C22.2 No. 0-M91")
- CSA C22.2 No. 30-M1986 - Explosion-Proof Enclosures for Use in Class I Hazardous Locations, November 1988, Reaffirmed 2007 ("CSA C22.2 No. 30-M1986")
- CSA C22.2 No. 157-92 - Intrinsically Safe and Non-incendive Equipment for Use in Hazardous Locations, June 2003, Reaffirmed 2006 ("CSA C22.2 No. 157-92")
- CSA C22.2 No. 213-M1987 - Non-incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations, March 1987, Reaffirmed 2008 ("CSA C22.2 No. 213-M1987")
- Class Number 3600 - Approval Standard for Electric Equipment for use in Hazardous (Classified) Locations

General Requirements, 1998 ("FM Approvals Class Number 3600")

- Class Number 3610 - Approval Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous (Classified) Locations, 2010 ("FM Approvals Class Number 3610")
- Class Number 3611 - Approval Standard for Non-incendive Electrical Equipment for Use in Class I and II, Division 2, and Class III, Divisions 1 and 2, Hazardous (Classified) Locations, 2004 ("FM Approvals Class Number 3611")
- Class Number 3615 - Approval Standard for Explosionproof Electrical Equipment General Requirements, 2006 ("FM Approvals Class Number 3615")
- Class Number 3620 - Approval Standard for Purged and Pressurized Electrical Equipment for Hazardous (Classified) Locations, 2000 ("FM Approvals Class Number 3620")
- IEC 60079-1 - Explosive Atmospheres-Part 1: Equipment Protection by Flameproof Enclosures "d", Sixth Edition, 2007 ("IEC 60079-1")

- IEC 60079-2 - Explosive Atmospheres-Part 2: Equipment Protection by Pressurized Enclosures "p", Fifth Edition, 2007 ("IEC 60079-2")
- IEC 60079-5 - Explosive Atmospheres-Part 5: Equipment Protection by Powder Filling "q", Third Edition, 2007 ("IEC 60079-5")
- IEC 60079-6 - Explosive Atmospheres-Part 6: Equipment Protection by Oil Immersion "o", Third Edition, 2007 ("IEC 60079-6")
- IEC 60079-7 - Explosive Atmospheres-Part 7: Equipment Protection by Increased Safety "e", Fourth Edition, 2006 ("IEC 60079-7")
- IEC 60079-11 - Explosive Atmospheres-Part 11: Equipment Protection by Intrinsic Safety "i", Sixth Edition, 2011 ("IEC 60079-11")
- IEC 60079-13 - Explosive atmospheres - Part 13: Equipment protection by pressurized room "p", Edition 1.0, 2010 ("IEC 60079-13")
- IEC 60079-15 - Explosive Atmospheres-Part 15: Equipment Protection by type of protection "n", Edition 4.0, 2010 ("IEC 60079-15")

- IEC 60079-18 - Explosive Atmospheres-Part 18:
Equipment Protection by Encapsulation "m", Edition
3.0, 2009 ("IEC 60079-18")
- IEC 60079-25 - Explosive Atmospheres-Part 25:
Intrinsically safe electrical systems, Edition 2.0,
2010 ("IEC 60079-25")
- IEC 60092-502 - Electrical Installation in Ships -
Tankers - Special Features, Fifth Edition, 1999 ("IEC
60092-502")
- IEC 61892-7, Mobile and Fixed Offshore Units -
Electrical Installations - Part 7: Hazardous Areas,
Second Edition, 2007 ("IEC 61892-7")
- NEC 2011 - National Electrical Code, 2011 ("NFPA 70")
- NFPA 496 - Standard for Purged and Pressurized
Enclosures for Electrical Equipment, 2013 Edition
("NFPA 496")
- UL 1604 - Electrical Equipment for use in Class I and
II, Division 2 and Class III Hazardous (Classified)
Locations, Third Edition, ("UL 1604")

The proposed sections that reference these standards and the locations where these standards are available are listed in 46 CFR 110.10-1.

This proposed rule also uses a technical standard other than voluntary consensus standards:

- IMO Resolution A.1023(26), Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009 ("2009 IMO MODU Code")

The proposed section that references this standard and the locations where this standard is available are listed in 46 CFR 110.10-1. They are used because we did not find voluntary consensus standards that are applicable to this proposed rule. If you are aware of voluntary consensus standards that might apply, please identify them by sending a comment to the docket using one of the methods under ADDRESSES. In your comment, please explain why you think the standards might apply.

If you disagree with our analysis of the voluntary consensus standards listed above or are aware of voluntary consensus standards that might apply but are not listed, please send a comment to the docket using one of the methods under ADDRESSES. In your comment, please explain why you disagree with our analysis and/or identify voluntary consensus standards we have not listed that might apply.

M. Environment

We have analyzed this proposed rule under Department

of Homeland Security Management Directive 023-01 and Commandant Instruction M16475.1D, which guide the Coast Guard in complying with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321-4370f), and have made a preliminary determination that this action is one of a category of actions that do not individually or cumulatively have a significant effect on the human environment. A preliminary environmental analysis checklist supporting this determination is available in the docket where indicated under the "Public Participation and Request for Comments" section of this preamble. This proposed rule is likely to be categorically excluded under section 2.B.2, figure 2-1, paragraphs (34)(d) and (e) of the Instruction and under section 6(a) of the "Appendix to National Environmental Policy Act: Coast Guard Procedures for Categorical Exclusions, Notice of Final Agency Policy" (67 FR 48243, July 23, 2002). This rule involves regulations concerning inspection and equipping of vessels; regulations concerning equipment approval and carriage requirements; and regulations concerning vessel operation safety standards. We seek any comments or information that may lead to the discovery of a significant environmental impact from this proposed rule.

List of Subjects

33 CFR Part 143

Continental shelf, Marine safety, Occupational safety and health, Vessels

46 CFR Part 110

Reporting and recordkeeping requirements, Vessels

46 CFR Part 111

Vessels

For the reasons discussed in the preamble, the Coast Guard proposes to amend 33 CFR part 143 and 46 CFR parts 110 and 111 as follows:

TITLE 33 - NAVIGATION AND NAVIGABLE WATERS

CHAPTER I--COAST GUARD, DEPARTMENT OF HOMELAND SECURITY

SUBCHAPTER N--OUTER CONTINENTAL SHELF ACTIVITIES

PART 143 - DESIGN AND EQUIPMENT

1. The authority citation for part 143 continues to read as follows:

Authority: 43 U.S.C. 1333(d)(1), 1348(c), 1356; 49 CFR 1.46; section 143.210 is also issued under 14 U.S.C. 664 and 31 U.S.C. 9701.

2. Amend § 143.120 by adding paragraphs (d) and (e) to read as follows:

§ 143.120 Floating OCS facilities.

* * * * *

(d) Each floating OCS facility that is built on or after (30 days after the DATE OF PUBLICATION OF FINAL RULE)

and documented under the laws of a foreign nation must comply with the requirements of 46 CFR subpart 111.108 prior to engaging in OCS activities.

(e) Each existing floating facility that is documented under the laws of a foreign nation and that has never operated on the OCS must comply with the requirements of 46 CFR subpart 111.108 prior to engaging in OCS activities.

3. Add § 143.208 to read as follows:

§ 143.208 Hazardous location requirements on foreign MODUs.

(a) Each mobile offshore drilling unit that is built on or after (30 days after the DATE OF PUBLICATION OF FINAL RULE) and documented under the laws of a foreign nation must comply with the requirements of 46 CFR subpart 111.108 prior to engaging in OCS activities.

(b) Each existing mobile offshore drilling unit that is documented under the laws of a foreign nation and that has never operated on the OCS must comply with the requirements of 46 CFR subpart 111.108 prior to engaging in OCS activities.

4. Add § 143.302 to read as follows:

§ 143.302 Hazardous location requirements on foreign vessels engaged in OCS activities.

(a) Each vessel that is built on or after (30 days after the DATE OF PUBLICATION OF FINAL RULE) that is documented under the laws of a foreign nation must comply with the requirements of 46 CFR subpart 111.108 prior to engaging in OCS activities.

(b) Each existing vessel that is documented under the laws of a foreign nation and that has never operated on the OCS must comply with the requirements of 46 CFR subpart 111.108 prior to engaging in OCS activities.

TITLE 46--Shipping

CHAPTER I--COAST GUARD, DEPARTMENT OF HOMELAND SECURITY

SUBCHAPTER J--ELECTRICAL ENGINEERING

PART 110 - GENERAL PROVISIONS

5. The authority citation for part 110 continues to read as follows:

Authority: 33 U.S.C. 1509; 43 U.S.C 1333; 46 U.S.C. 3306, 3307, 3703; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; Department of Homeland Security Delegation No. 0170.1; §110.01-2 also issued under 44 U.S.C. 3507.

6. Revise § 110.10-1 to read as follows:

§ 110.10-1 Incorporation by reference.

(a) Certain material is incorporated by reference into this subchapter with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in

this section, the Coast Guard must publish notice of change in the Federal Register and the material must be available to the public. The word "should," when used in material incorporated by reference, is to be construed the same as the words "must" or "shall" for the purposes of this subchapter. All approved material is available for inspection at the U.S. Coast Guard, Office of Design and Engineering Standards (CG-ENG), 2100 Second Street, SW., Stop 7126, Washington, DC 20593-7126, and is available from the sources listed below. It is also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030 or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(b) *American Bureau of Shipping (ABS)*, ABS Plaza, 16855 Northchase Drive, Houston, TX 77060, 281-877-5800, <http://www.eagle.org>.

(1) Rules for Building and Classing Steel Vessels, Part 4 Vessel Systems and Machinery, 2003 ("ABS Steel Vessel Rules"), IBR approved for §§ 110.15-1, 111.01-9, 111.12-3, 111.12-5, 111.12-7, 111.33-11, 111.35-1, 111.70-1, 111.105-31, 111.105-39, 111.105-40, and 113.05-7.

(2) Rules for Building and Classing Mobile Offshore Drilling Units, Part 4 Machinery and Systems, 2001 ("ABS MODU Rules"), IBR approved for §§ 111.12-1, 111.12-3, 111.12-5, 111.12-7, 111.33-11, 111.35-1, and 111.70-1.

(c) *American National Standards Institute (ANSI)*, 25 West 43rd Street, New York, NY 10036, 212-642-4900, <http://www.ansi.org/>.

(1) ANSI/IEEE C37.12-1991, American National Standard for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis-Specifications Guide, 1991 ("ANSI/IEEE C37.12"), IBR approved for § 111.54-1.

(2) ANSI/IEEE C37.27-1987 (IEEE Std 331) Application Guide for Low-Voltage AC Nonintegrally Fused Power Circuitbreakers (Using Separately Mounted Current-Limiting Fuses), 1987 ("ANSI/IEEE C37.27"), IBR approved for § 111.54-1.

(3) ANSI/ISA 12.12.01-2012, Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class II, Divisions 1 and 2 Hazardous (Classified) Locations, IBR approved for § 111.108-3(b).

(4) ANSI/ISA 60079-18 - Electrical Apparatus for Use in Class I, Zone 1 Hazardous (Classified) Locations: Type

of Protection - Encapsulation "m", 2012 ("ANSI/ISA 60079-18"), IBR approved for § 111.108-3(e).

(5) ANSI/UL 674 - Electric Motors and Generators for Use in Division 1 Hazardous Locations (Classified) Locations, 5th Edition, ("ANSI/UL 674"), IBR approved for § 111.108-3(b).

(6) ANSI/UL 823 - Electric Heaters for Use in Hazardous (Classified) Locations, 9th Edition ("ANSI/UL 823"), IBR approved for § 111.108-3(b).

(7) ANSI/UL 844 - Electric Lighting Fixtures for Use in Hazardous (Classified) Locations, 13th Edition ("ANSI/UL 844"), IBR approved for § 111.108-3(b).

(8) ANSI/UL 913 - Intrinsically Safe Apparatus and Associated Apparatus for use in Class I, II and III, Division 1, Hazardous Locations, 7th Edition ("ANSI/UL 913"), IBR approved for § 111.108-3(b).

(9) ANSI/UL 1203 - Explosion-proof and Dust-ignition Proof Electrical Equipment for use in Hazardous (Classified) Locations, 4th Edition ("ANSI/UL 1203"), IBR approved for § 111.108-3(b).

(10) ANSI/UL 2225 - Cables and Cable-Fittings for use in Hazardous (Classified) Locations, 3rd Edition ("ANSI/UL 2225"), IBR approved for § 111.108-3(b).

(d) *ASME*, Three Park Avenue, New York, NY 10016, 800-843-2763, <http://www.asme.org>: (1) ASME A17.1-2000 Part 2 Electric Elevators, (2000) ("ASME A17.1"), IBR approved for § 111.91-1.

(2) [Reserved]

(e) *ASTM International (ASTM)*, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, 610-832-9500, <http://www.astm.org>:

(1) ASTM B 117-97, Standard Practice for Operating Salt Spray (Fog) Apparatus, ("ASTM B 117"), IBR approved for § 110.15-1.

(2) ASTM F2876-10 - Standard Practice for Thermal Rating and Installation of Internal Combustion Engine Packages for use in Hazardous Locations in Marine Applications, ("ASTM F2876-10"), IBR approved for § 111.108-3(g).

(f) *Canadian Standards Association (CSA)*, 5060 Spectrum Way, Suite 100, Mississauga, Ontario, L4W 5N6, Canada, 800-463-6727, <http://www.csa.ca/>.

(1) CSA C22.2 No. 0-M91 - General Requirements - Canadian Electrical Code, Part II, July 1991, Reaffirmed 2006 ("CSA C22.2 No. 0-M91"), IBR approved for § 111.108-3(b).

(2) CSA C22.2 No. 30-M1986 - Explosion-Proof Enclosures for Use in Class I Hazardous Locations, November 1988, Reaffirmed 2007 ("CSA C22.2 No. 30-M1986"), IBR approved for § 111.108-3(b).

(3) CSA C22.2 No. 157-92 - Intrinsically Safe and Non-incendive Equipment for Use in Hazardous Locations, June 2003, Reaffirmed 2006 ("CSA C22.2 No. 157-92"), IBR approved for § 111.108-3(b).

(4) CSA C22.2 No. 213-M1987 - Non-incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations, March 1987, Reaffirmed 2008 ("CSA C22.2 No. 213-M1987"), IBR approved for § 111.108-3(b).

(g) *FM Approvals*, P.O. Box 9102, Norwood, MA 02062, 781-440-8000, <http://www.fmglobal.com>:

(1) Class Number 3600 - Approval Standard for Electric Equipment for use in Hazardous (Classified) Locations General Requirements, 1998 ("FM Approvals Class Number 3600"), IBR approved for § 111.108-3(b).

(2) Class Number 3610 - Approval Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous (Classified) Locations, 2010 ("FM Approvals Class Number 3610"), IBR approved for § 111.108-3(b).

(3) Class Number 3611 - Approval Standard for Non-incendive Electrical Equipment for Use in Class I and II, Division 2, and Class III, Divisions 1 and 2, Hazardous (Classified) Locations, 2004 ("FM Approvals Class Number 3611"), IBR approved for § 111.108-3(b).

(4) Class Number 3615 - Approval Standard for Explosionproof Electrical Equipment General Requirements, 2006 ("FM Approvals Class Number 3615"), IBR approved for § 111.108-3(b).

(5) Class Number 3620 - Approval Standard for Purged and Pressurized Electrical Equipment for Hazardous (Classified) Locations, 2000 ("FM Approvals Class Number 3620"), IBR approved for § 111.108-3(b).

(h) Institute of *Electrical and Electronic Engineers (IEEE)*, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854, 732-981-0060, <http://www.ieee.org/>.

(1) IEEE Std C37.04-1999 IEEE Standard Rating Structure for AC High-Voltage Circuit Breakers, 1999 ("IEEE C37.04"), IBR approved for § 111.54-1.

(2) IEEE Std C37.010-1999 IEEE Application Guide for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis, 1999 ("IEEE C37.010"), IBR approved for § 111.54-1.

(3) IEEE Std C37.13-1990 IEEE Standard for Low-Voltage AC Power Circuit Breakers Used in Enclosures, October 22, 1990 ("IEEE C37.13"), IBR approved for § 111.54-1.

(4) IEEE Std C37.14-2002 IEEE Standard for Low-Voltage DC Power Circuit Breakers Used in Enclosures, April 25, 2003 ("IEEE C37.14"), IBR approved for § 111.54-1.

(5) IEEE Std 45-1998 IEEE Recommended Practice for Electric Installations on Shipboard—1998, October 19, 1998 ("IEEE 45-1998"), IBR approved for §§ 111.30-19, 111.105-3, 111.105-31, and 111.105-41.

(6) IEEE Std 45-2002 IEEE Recommended Practice for Electrical Installations On Shipboard—2002, October 11, 2002 ("IEEE 45-2002"), IBR approved for §§ 111.05-7, 111.15-2, 111.30-1, 111.30-5, 111.33-3, 111.33-5, 111.40-1, 111.60-1, 111.60-3, 111.60-5, 111.60-11, 111.60-13, 111.60-19, 111.60-21, 111.60-23, 111.75-5, and 113.65-5.

(7) IEEE 100 The Authoritative Dictionary of IEEE Standards Terms, Seventh Edition, 2000 ("IEEE 100"), IBR approved for § 110.15-1.

(i) *International Electrotechnical Commission (IEC)*,
3 Rue de Varembe, Geneva, Switzerland, +41 22 919 02 11,
<http://www.iec.ch/>:

(1) IEC 68-2-52, Environmental Testing Part 2: Tests—Test Kb: Salt Mist, Cyclic (Sodium Chloride Solution), Second Edition, 1996 ("IEC 68-2-52"), IBR approved for § 110.15-1.

(2) IEC 60331-11 Tests for electric cables under fire conditions—Circuit integrity—Part 11: Apparatus—Fire alone at a flame temperature of at least 750 °C, First Edition, 1999 ("IEC 60331-11"), IBR approved for § 113.30-25.

(3) IEC 60331-21 Tests for Electric Cables Under Fire Conditions—Circuit Integrity—Part 21: Procedures and Requirements—Cables of Rated Voltage up to and Including 0.6/1.0kV, First Edition, 1999 ("IEC 60331-21"), IBR approved for § 113.30-25.

(4) IEC 332-1 Tests on Electric Cables Under Fire Conditions, Part 1: Test on a Single Vertical Insulated Wire or Cable, Third Edition, 1993 ("IEC 332-1"), IBR approved for § 111.30-19.

(5) IEC 60332-3-22 Tests on Electric Cables Under Fire Conditions—Part 3-22: Test for Vertical Flame Spread of Vertically-Mounted Bunched Wires or Cables—Category A, First Edition, 2000 ("IEC 60332-3-22"), IBR approved for §§ 111.60-1, 111.60-2, 111.60-6, and 111.107-1.

(6) IEC 60079-0 Electrical apparatus for Explosive Gas Atmospheres—Part 0: General Requirements, Edition 3.1,

2000 ("IEC 60079-0"), IBR approved for §§ 111.105-1, 111.105-3, 111.105-5, 111.105-7, and 111.105-17.

(7) IEC 60079-1 Electrical Apparatus for Explosive Gas Atmospheres—Part 1: Flameproof Enclosures "d" including corr.1, Fourth Edition, June 2001 ("IEC 60079-1"), IBR approved for §§ 111.105-1, 111.105-3, 111.105-5, 111.105-7, 111.105-9, and 111.105-17.

(8) IEC 60079-1 - Explosive Atmospheres-Part 1: Equipment Protection by Flameproof Enclosures "d", Sixth Edition, 2007 ("IEC 60079-1"), IBR approved for § 111.108-3(b).

(9) IEC 60079-2 Electrical Apparatus for Explosive Gas Atmospheres—Part 2: Pressurized Enclosures "p", Fourth Edition, 2001 ("IEC 60079-2"), IBR approved for §§ 111.105-1, 111.105-3, 111.105-5, 111.105-7, and 111.105-17.

(10) IEC 60079-2 - Explosive Atmospheres-Part 2: Equipment Protection by Pressurized Enclosures "p", Fifth Edition, 2007 ("IEC 60079-2"), IBR approved for § 111.108-3(b).

(11) IEC 60079-5 Electrical Apparatus for Explosive Gas Atmospheres—Part 5: Powder Filling "q", Second Edition, 1997 ("IEC 60079-5"), IBR approved for §§ 111.105-1, 111.105-3, 111.105-5, 111.105-7, 111.105-15, and 111.105-17.

(12) IEC 60079-5 - Explosive Atmospheres-Part 5: Equipment Protection by Powder Filling "q", Third Edition, 2007 ("IEC 60079-5"), IBR approved for § 111.108-3(b).

(13) IEC 60079-6 Electrical Apparatus for Explosive Gas Atmospheres-Part 6: Oil Immersion "o", Second Edition, 1995 ("IEC 79-6"), IBR approved for §§ 111.105-1, 111.105-3, 111.105-5, 111.105-7, 111.105-15, and 111.105-17.

(14) IEC 60079-6 - Explosive Atmospheres-Part 6: Equipment Protection by Oil Immersion "o", Third Edition, 2007 ("IEC 60079-6"), IBR approved for § 111.108-3(b).

(15) IEC 60079-7 Electrical Apparatus for Explosive Gas Atmospheres-Part 7: Increased Safety "e", Third Edition, 2001 ("IEC 60079-7"), IBR approved for §§ 111.105-1, 111.105-3, 111.105-5, 111.105-7, 111.105-15, and 111.105-17.

(16) IEC 60079-7 - Explosive Atmospheres-Part 7: Equipment Protection by Increased Safety "e", Fourth Edition, 2006 ("IEC 60079-7"), IBR approved for § 111.108-3(b).

(17) IEC 60079-11 Electrical Apparatus for Explosive Gas Atmospheres-Part 11: Intrinsic Safety "i", Fourth Edition, 1999 ("IEC 60079-11"), IBR approved for §§

111.105-1, 111.105-3, 111.105-5, 111.105-7, 111.105-11, and 111.105-17.

(18) IEC 60079-11 - Explosive Atmospheres-Part 11: Equipment Protection by Intrinsic Safety "i", Sixth Edition, 2011 ("IEC 60079-11"), IBR approved for § 111.108-3(b).

(19) IEC 60079-13 - Explosive atmospheres - Part 13: Equipment protection by pressurized room "p", Edition 1.0, 2010 ("IEC 60079-13"), IBR approved for § 111.108-3(b).

(20) IEC 60079-15 Electrical Apparatus for Explosive Gas Atmospheres-Part 15: Type of Protection "n", Second Edition, 2001 ("IEC 60079-15"), IBR approved for §§ 111.105-1, 111.105-3, 111.105-5, 111.105-7, 111.105-15, and 111.105-17.

(21) IEC 60079-15 - Explosive Atmospheres-Part 15: Equipment Protection by type of protection "n", Edition 4.0, 2010 ("IEC 60079-15"), IBR approved for § 111.108-3(b).

(22) IEC 60079-18 Electrical Apparatus for Explosive Gas Atmospheres-Part 18: Encapsulation "m", First Edition, 1992 ("IEC 79-18"), IBR approved for §§ 111.105-1, 111.105-3, 111.105-5, 111.105-7, 111.105-15, and 111.105-17.

(23) IEC 60079-18 - Explosive Atmospheres-Part 18: Equipment Protection by Encapsulation "m", Edition 3.0, 2009 ("IEC 60079-18"), IBR approved for § 111.108-3(e).

(24) IEC 60079-25 - Explosive Atmospheres-Part 25: Intrinsically safe electrical systems, Edition 2.0, 2010 ("IEC 60079-25"), IBR approved for § 111.108-3(b).

(25) IEC 60092-101 Electrical Installation in Ships, Part 101: Definitions and General Requirements, Edition 4.1, 2002 ("IEC 60092-101"), IBR approved for §§ 110.15-1 and 111.81-1.

(26) IEC 92-201 Electrical Installation in Ships, Part 201: System Design-General, Fourth Edition, 1994 ("IEC 92-201"), IBR approved for §§ 111.70-3 and 111.81-1.

(27) IEC 92-202 Amendment 1 Electrical Installation in Ships, Part 202: System Design-Protection, 1996 ("IEC 92-202"), IBR approved for §§ 111.12-7, 111.50-3, 111.53-1, and 111.54-1.

(28) IEC 92-301 Amendment 2 Electrical Installation in Ships, Part 301: Equipment-Generators and Motors, 1995 ("IEC 92-301"), IBR approved for §§ 111.12-7, 111.25-5, and 111.70-1.

(29) IEC 60092-302 Electrical Installation in Ships, Part 302: Low-Voltage Switchgear and Control Gear

Assemblies, Fourth Edition, 1997 ("IEC 60092-302"), IBR approved for §§ 111.30-1, 111.30-5, and 111.30-19.

(30) IEC 92-303 Electrical Installation in Ships, Part 303: Equipment-Transformers for Power and Lighting, Third Edition, 1980 ("IEC 92-303"), IBR approved for § 111.20-15.

(31) IEC 92-304 Amendment 1 Electrical Installation in Ships, Part 304: Equipment-Semiconductor Convertors, 1995 ("IEC 92-304"), IBR approved for §§ 111.33-3 and 111.33-5.

(32) IEC 92-306 Electrical Installation in Ships, Part 306: Equipment-Luminaries and accessories, Third Edition, 1980 ("IEC 92-306"), IBR approved for §§ 111.75-20 and 111.81-1.

(33) IEC 60092-352 Electrical Installation in Ships—Choice and Installation of Cables for Low-Voltage Power Systems, Second Edition, 1997 ("IEC 60092-352"), IBR approved for §§ 111.60-3, 111.60-5, and 111.81-1.

(34) IEC 92-353 Electrical Installations in Ships—Part 353: Single and Multicore Non-Radial Field Power Cables with Extruded Solid Insulation for Rated Voltages 1kV and 3kV, Second Edition, 1995 ("IEC 92-353"), IBR approved for §§ 111.60-1, 111.60-3, and 111.60-5.

(35) IEC 92-401 Electrical Installations in Ships, Part 401: Installation and Test of completed Installation with amendment 1 (1987) and amendment 2 (1997), Third

Edition, 1980 ("IEC 92-401"), IBR approved for §§ 111.05-9 and 111.81-1.

(36) IEC 60092-502 Electrical Installation in Ships, Part 502: Tankers—Special Features, 1999 ("IEC 60092-502"), IBR approved for §§ 111.81-1, 111.105-31, and 111.108-3(b).

(37) IEC 92-503 Electrical installations in ships, Part 503: Special features: A.C. supply systems with voltages in the range of above 1kV up to and including 11kV, First Edition, 1975 ("IEC 92-503"), IBR approved for § 111.30-5.

(38) IEC 60529 Degrees of Protection Provided by Enclosures (IP Code), Edition 2.1, 2001 ("IEC 60529"), IBR approved for §§ 110.15-1, 111.01-9, 113.10-7, 113.20-3, 113.25-11, 113.30-25, 113.37-10, 113.40-10, and 113.50-5.

(39) IEC 60533 Electrical and Electronic Installations in Ships—Electromagnetic Compatibility, Second Edition, 1999 ("IEC 60533"), IBR approved for § 113.05-7.

(40) IEC 60947-2 Low-Voltage Switchgear and Controlgear Part 2: Circuit-Breakers, Third Edition, 2003 ("IEC 60947-2"), IBR approved for § 111.54-1.

(41) IEC 61363-1 Electrical Installations of Ships and Mobile and Fixed Offshore Units—Part 1: Procedures for Calculating Short-Circuit Currents in Three-Phase a.c.,

First Edition, 1998 ("IEC 61363-1"), IBR approved for § 111.52-5.

(42) IEC 61892-7, Mobile and Fixed Offshore Units - Electrical Installations - Part 7: Hazardous Areas, Second Edition, 2007 ("IEC 61892-7"), IBR approved for § 111.108-3(b).

(43) IEC 62271-100, High-voltage switchgear and controlgear-part 100: High-voltage alternating current circuitbreakers, Edition 1.1, 2003 ("IEC 62271-100"), IBR approved for § 111.54-1.

(j) *International Maritime Organization (IMO)*, 4 Albert Embankment, London SE1 7SR, United Kingdom, +44 (0) 20 7735 7611, <http://www.imo.org>:

(1) International Convention for the Safety of Life at Sea (SOLAS), Consolidated Text of the International Convention for the Safety of Life at Sea, 1974, and its Protocol of 1988: Article, Annexes and Certificates.

(Incorporating all Amendments in Effect from January 2001), 2001 ("IMO SOLAS 74"), IBR approved for §§ 111.99-5, 111.105-31, 112.15-1, and 113.25-6.

(2) IMO Resolution A.1023(26), Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009 ("2009 IMO MODU Code"), IBR approved for § 111.108-3(b).

(k) *International Society of Automation (ISA)*, 67
T.W. Alexander Drive, Research Triangle Park, NC 27709,
919-549-8411, <http://www.isa.org/>.

(1) RP 12.6, Wiring Practices for Hazardous
(Classified) Locations Instrumentation Part I: Intrinsic
Safety, 1995 ("ISA RP 12.6"), IBR approved for § 111.105-
11.

(2) [Reserved]

(1) *Lloyd's Register*, 71 Fenchurch Street, London
EC3M 4BS, UK, +44-0-20-7709-9166, <http://www.lr.org/>.

(1) Type Approval System-Test Specification Number 1,
2002, IBR approved for § 113.05-7.

(2) [Reserved]

(m) *National Electrical Manufacturers Association*
(NEMA), 1300 North 17th Street, Arlington, VA 22209, 703-
841-3200, <http://www.nema.org/>.

(1) NEMA Standards Publication ICS 2-2000, Industrial
Control and Systems Controllers, Contactors, and Overload
Relays, Rated 600 Volts, 2000 ("NEMA ICS 2"), IBR approved
for § 111.70-3.

(2) NEMA Standards Publication ICS 2.3-1995,
Instructions for the Handling, Installation, Operation, and
Maintenance of Motor Control Centers Rated not More Than

600 Volts, 1995 ("NEMA ICS 2.3"), IBR approved for § 111.70-3.

(3) NEMA Standards Publication No. ICS 2.4-2003, NEMA and IEC Devices for Motor Service—a Guide for Understanding the Differences, 2003 ("NEMA ICS 2.4"), IBR approved for § 111.70-3.

(4) NEMA Standards Publication No. ANSI/NEMA 250-1997, Enclosures for Electrical Equipment (1000 Volts Maximum), August 30, 2001 ("NEMA 250"), IBR approved for §§ 110.15-1, 111.01-9, 110.15-1, 113.10-7, 113.20-3, 113.25-11, 113.30-25, 113.37-10, 113.40-10, and 113.50-5.

(5) NEMA Standards Publication No. WC-3-1992, Rubber Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy, Revision 1, February 1994 ("NEMA WC-3"), IBR approved for § 111.60-13.

(6) NEMA WC-70/ICEA S-95-658-1999 Standard for Non-Shielded Power Rated Cable 2000V or Less for the Distribution of Electrical Energy, 1999 ("NEMA WC-70"), IBR approved for § 111.60-13.

(n) *National Fire Protection Association (NFPA)*, 1 Batterymarch Park, Quincy, MA 02169, 617-770-3000, <http://www.nfpa.org>.

(1) NEC 2002 (NFPA 70), National Electrical Code Handbook, Ninth Edition, 2002 ("NFPA NEC 2002"), IBR

approved for §§ 111.05-33, 111.20-15, 111.25-5, 111.50-3, 111.50-7, 111.50-9, 111.53-1, 111.54-1, 111.55-1, 111.59-1, 111.60-7, 111.60-13, 111.60-23, 111.81-1, 111.105-1, 111.105-3, 111.105-5, 111.105-7, 111.105-9, 111.105-15, 111.105-17, and 111.107-1.

(2) NEC 2011 - National Electrical Code, 2011 ("NFPA 70"), IBR approved for § 111.108-3(b).

(3) NFPA 77, Recommended Practice on Static Electricity, 2000 ("NFPA 77"), IBR approved for § 111.105-27.

(4) NFPA 99, Standard for Health Care Facilities, 2005 ("NFPA 99"), IBR approved for § 111.105-37.

(5) NFPA 496, Standard for Purged and Pressurized Enclosures for Electrical Equipment, 2013 ("NFPA 496"), IBR approved for § 111.108-3(d).

(o) *Naval Publications and Forms Center (NPFC)*, Department of Defense, Single Stock Point, 700 Robins Avenue, Philadelphia, PA 19111.

(1) MIL-C-24640A, Military Specification Cables, Light Weight, Electric, Low Smoke, for Shipboard Use, General Specification for (1995) Supplement 1, June 26, 1995 ("NPFC MIL-C-24640A"), IBR approved for §§ 111.60-1 and 111.60-3.

(2) MIL-C-24643A, Military Specification Cables and Cords, Electric, Low Smoke, for Shipboard Use, General Specification for (1996) Amendment 2, March 13, 1996 ("NPFC MIL-C-24643A"), IBR approved for §§ 111.60-1 and 111.60-3.

(3) MIL-W-76D, Military Specification Wire and Cable, Hook-Up, Electrical, Insulated, General Specification for (2003) (Revision of MIL-W-76D-1992) Amendment 1-2003, February 6, 2003 ("NPFC MIL-W-76D"), IBR approved for § 111.60-11.

(p) *Naval Sea Systems Command (NAVSEA)*, 1333 Isaac Hull Avenue, SE., Washington, DC 20376, 202-781-0000, <http://www.navsea.navy.mil>.

(1) DDS 300-2, A.C. Fault Current Calculations, 1988 ("NAVSEA DDS 300-2"), IBR approved for § 111.52-5.

(2) MIL-HDBK-299(SH), Military Handbook Cable Comparison Handbook Data Pertaining to Electric Shipboard Cable Notice 1-1991 (Revision of MIL-HDBK-299(SH) (1989)), October 15, 1991 ("NAVSEA MIL-HDBK-299(SH)"), IBR approved for § 111.60-3.

(q) *UL*, 2600 N.W. Lake Road, Camas, WA, 98607, 877-854-3577, <http://www.ul.com>:

(1) UL 44, Standard for Thermoset-Insulated Wire and Cable, Fifteenth Edition, (Revisions through and including

May 13, 2002), March 22, 1999 ("UL 44"), IBR approved for § 111.60-11.

(2) UL 50, Standard for Safety Enclosures for Electrical Equipment, Eleventh Edition, October 19, 1995 ("UL 50"), IBR approved for § 111.81-1.

(3) UL 62, Standard for Flexible Cord and Fixture Wire, Sixteenth Edition, October 15, 1997 ("UL 62"), IBR approved for § 111.60-13.

(4) UL 83, Standard for Thermoplastic-Insulated Wires and Cables, Twelfth Edition, September 29, 1998 ("UL 83"), IBR approved for § 111.60-11.

(5) UL 484, Standard for Room Air Conditioners, Seventh Edition, (Revisions through and including Sep. 3, 2002), April 27, 1993 ("UL 484"), IBR approved for § 111.87-3.

(6) UL 489, Molded-Case Circuit Breakers, Molded-Case Switches, and Circuit-Breaker Enclosures, Ninth Edition, (Revisions through and including Mar. 22, 2000), October 31, 1996 ("UL 489"), IBR approved for §§ 111.01-15 and 111.54-1.

(7) UL 514A, Metallic Outlet Boxes, Ninth Edition, December 27, 1996 ("UL 514A"), IBR approved for § 111.81-1.

(8) UL 514B, Conduit, Tubing, and Cable Fittings, Fourth Edition, November 3, 1997 ("UL 514B"), IBR approved for § 111.81-1.

(9) UL 514C, Standard for Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers, Second Edition, October 31, 1988 ("UL 514C"), IBR approved for § 111.81-1.

(10) UL 913, Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class i, ii, and iii, Division 1, Hazardous (Classified) Locations, Sixth Edition, (Revisions through and including Dec. 15, 2003) August 8, 2002 ("UL 913"), IBR approved for § 111.105-11.

(11) UL 1042, Standard for Electric Baseboard Heating Equipment, April 11, 1994 ("UL 1042"), IBR approved for § 111.87-3.

(12) UL 1072, Standard for Medium-Voltage Power Cables, Third Edition, (Revisions through and including Apr. 14, 2003), December 28, 2001 ("UL 1072"), IBR approved for § 111.60-1.

(13) UL 1104, Standard for Marine Navigation Lights, 1998 ("UL 1104"), IBR approved for § 111.75-17.

(14) UL 1203, Standard for Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations, Third Edition, (Revisions through

and including Apr. 30, 2004), September 7, 2000 ("UL 1203"), IBR approved for § 111.105-9.

(15) UL 1309, Marine Shipboard Cables, First Edition, July 14, 1995 ("UL 1309"), IBR approved for §§ 111.60-1 and 111.60-3.

(16) UL 1581, May 6, 2003, ("UL 1581"), IBR approved for §§ 111.30-19, 111.60-2, and 111.60-6.

(17) UL 1598, Luminaires, First Edition, January 31, 2000 ("UL 1598"), IBR approved for § 111.75-20.

(18) UL 1598A, Standard for Supplemental Requirements for Luminaires for Installation on Marine Vessels, First Edition, December 4, 2000 ("UL 1598A"), IBR approved for § 111.75-20.

(19) UL 1604 - Electrical Equipment for use in Class I and II, Division 2 and Class III Hazardous (Classified) Locations, Third Edition, ("UL 1604"), IBR approved for § 111.108-3(b).

7. Amend § 110.15-1(b) by adding, in alphabetical order, the definitions for "IECEX System", "Outer Continental Shelf (OCS)", "OCS activity", "Special Division 1", "Zone 0", "Zone 1", and "Zone 2" to read as follows:

§ 110.15-1 Definitions.

* * * * *

(b) * * *

IECEX System means an international certification system covering equipment that meets the provisions of the IEC 60079 (incorporated by reference, see § 110.10-1(i)) series of standards. The IECEX System is comprised of an Ex Certification Body and an Ex Testing Laboratory that has been accepted into the IECEX System after satisfactory assessment of their competence to ISO/IEC Standard 17025, ISO/IEC Guide 65, IECEX rules of procedures, IECEX operational documents, and IECEX technical guidance documents as part of the IECEX assessment process.

* * * * *

OCS activity has the same meaning as 33 CFR 140.10.

Outer Continental Shelf (OCS) has the same meaning as 33 CFR 140.10.

* * * * *

Special Division 1 is a Class I, Zone 0 hazardous location in Article 505 of the National Electrical Code (incorporated by reference, see § 110.10-1(n)(2)) that may require special considerations for electrical equipment installed in such locations.

* * * * *

Zone 0 is a hazardous location in which an explosive gas or vapor in mixture with air is continuously present or present for long periods.

Zone 1 is a hazardous location in which an explosive gas or vapor in mixture with air is likely to occur in normal operating conditions.

Zone 2 is a hazardous location in which an explosive gas or vapor in mixture with air is not likely to occur in normal operating conditions, or in which such a mixture, if it does occur, will only exist for a short time.

8. Amend § 110.25-1 by adding paragraphs (p) and (q) to read as follows:

§ 110.25-1 Plans and information required for new construction.

(p) [Reserved]

(q) For vessels with hazardous locations to which subpart 111.108 of this part applies, plans showing the extent and classification of all hazardous locations, including information on--

(1) Equipment identification by manufacturer's name and model number;

(2) Equipment use within the system;

- (3) Parameters of intrinsically safe systems, including cables;
- (4) Equipment locations;
- (5) Installation details and/or approved control drawings; and
- (6) A certificate of testing, and listing or certification, by an independent laboratory or an IECEx Certificate of Conformity under the IECEx System, where required by the respective standard in § 111.108-3(b)(1), (2), or (3) of this subchapter.

PART 111 - ELECTRIC SYSTEMS GENERAL REQUIREMENTS

9. The authority citation for part 111 continues to read as follows:

Authority: 46 U.S.C. 3306, 3703; Department of Homeland Security Delegation No. 0170.1.

10. Add subpart 111.108 to read as follows:

Subpart 111.108 -- Hazardous locations requirements on U.S. and foreign MODUs, floating OCS facilities and vessels conducting OCS activities, and U.S. vessels that carry flammable and combustible cargo

Sec.

111.108-1 Applicability.

111.108-2 Reserved.

111.108-3 General requirements.

§ 111.108-1 Applicability.

This subpart applies to:

(a) U.S. MODUs, floating OCS facilities, and vessels, other than offshore supply vessels regulated under 46 CFR subchapter L, built on or after (30 days after DATE OF PUBLICATION OF FINAL RULE) that engage in OCS activities.

(b) Foreign MODUs, floating OCS facilities, and vessels that have never operated on the OCS that engage in OCS activities on or after (30 days after DATE OF PUBLICATION OF FINAL RULE).

(c) U.S. MODUs, floating OCS facilities, and vessels, other than offshore supply vessels regulated under 46 CFR subchapter L, that engage in OCS activities and U.S. tank vessels that carry flammable and combustible cargoes and may comply with this subpart in lieu of §§ 111.105-1 through 111.105-15 of this part. All other sections of subpart 111.105 of this part remain applicable.

§ 111.108-2 [Reserved]

§ 111.108-3 General requirements.

(a) Electrical installations in hazardous locations, where necessary for operational purposes, must be located in the least hazardous location practicable.

(b) Electrical installations in hazardous locations must comply with paragraphs (b)(1), (b)(2), or (b)(3) of this section.

(1) NFPA 70 (NEC 2011) Articles 500 through 504 (incorporated by reference, see § 110.10-1(n)(2)). Equipment required to be identified for Class I locations must meet the provisions of Sections 500.7 and 500.8 of NFPA 70 and must be tested and listed by an independent laboratory to any of the following standards:

(i) ANSI/UL 674, ANSI/UL 823, ANSI/UL 844, ANSI/UL 913, ANSI/UL 1203, UL 1604 (replaced by ANSI/ISA 12.12.01) or ANSI/UL 2225 (incorporated by reference, see § 110.10-1(c) and (q)).

(ii) FM Approvals Class Number 3600, Class Number 3610, Class Number 3611, Class Number 3615, or Class Number 3620 (incorporated by reference, see § 110.10-1(g)).

(iii) CSA C22.2 Nos. 0-M91, 30-M1986, 157-92, or 213-M1987 (incorporated by reference, see § 110.10-1(f)).

Note to § 111.108-3(b)(1): See Article 501.5 of NFPA 70 (incorporated by reference, see § 110.10-1(n)(2)) for use of Zone equipment in Division designated spaces.

(2) NFPA 70 Article 505 (incorporated by reference, see § 110.10-1(n)(2)). Equipment required to be identified for Class I locations must meet the provisions of Sections 505.7 and 505.9 of NFPA 70 and must be tested and listed by an independent laboratory to one or more of the types of protection in ANSI/ISA Series of standards incorporated in NFPA 70 (incorporated by reference, see § 110.10-1(n)(2)).

Note to § 111.108-3(b)(2): See Article 505.9(c)(1) of the NFPA 70 (incorporated by reference, see § 110.10-1(n)(2)) for use of Division equipment in Zone designated spaces.

(3) Clause 6 of IEC 61892-7 (incorporated by reference, see § 110.10-1(i)(44)) for all U.S. and foreign floating OCS facilities and vessels on the U.S. OCS or on the waters adjacent thereto; chapter 6 of 2009 IMO MODU Code (incorporated by reference, see § 110.10-1(j)(2)) for all U.S. and foreign MODUs; or clause 6 of IEC 60092-502 (incorporated by reference, see § 110.10-1(i)(36)) for U.S. tank vessels that carry flammable and combustible cargoes. Electrical apparatus in hazardous locations must be tested

to IEC 60079-1, -2, -5, -6, -7, -11, -13, -15, -18 or -25 (incorporated by reference, see § 110.10-1(i)) and certified by an independent laboratory under the IECEx System..

(c) System components that are listed or certified under paragraph (b)(1), (b)(2), or (b)(3) of this section must not be combined in a manner that would compromise system integrity or safety.

(d) As an alternative to paragraph (b)(1) of this section, electrical equipment that complies with the provisions of NFPA 496 (incorporated by reference, see § 110.10-1(n)(5)) is acceptable for installation in Class I, Divisions 1 and 2. When equipment meeting this standard is used, it does not need to be identified and marked by an independent laboratory. The Commanding Officer, Marine Safety Center (MSC) will evaluate equipment complying with this standard during plan review. It is normally considered acceptable if a manufacturer's certification of compliance is indicated on a material list or plan.

(e) Equipment listed or certified to ANSI/ISA 60079-18 or IEC 60079-18, respectively, (incorporated by reference, see § 110.10-1(i)(23)) is not permitted in Class I, Special Division 1 or Zone 0 hazardous locations unless

the encapsulating compound of Ex "ma" protected equipment is not exposed to, or has been determined to be compatible with, the liquid or cargo in the storage tank.

(f) Submerged pump motors that do not meet the requirements of § 111.105-31(d) of this part, installed in tanks carrying flammable or combustible liquids with closed-cup flashpoints not exceeding 60° C (140° F), must receive concept approval by the Commandant (CG-ENG) and plan approval by the Commanding Officer, MSC.

(g) Internal combustion engines installed in Class I, Divisions 1 and 2 (Class I and IEC, Zones 1 and 2) must meet the provisions of ASTM F2876-10 (incorporated by reference, see § 110.10-1(e)(2)).

Dated: **05 June 2013**

J.G. Lantz
Director of Commercial Regulations and Standards
United States Coast Guard

[FR Doc. 2013-14951 Filed 06/21/2013 at 8:45 am; Publication Date: 06/24/2013]